

# Request for Climate Simulation Laboratory Computational Resources

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**CSL proposal deadline is September 4, 2007**

**Allocations will begin December 1, 2007 and end May 31, 2009**

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Instructions: This form constitutes an official request for computing services available through the Computational and Information Systems Laboratory of the National Center for Atmospheric Research. Please use the documents on the CSL web site at: <http://www.cisl.ucar.edu/csl/> as guidelines to help you complete your request.

This word form must be submitted to [alloc@ucar.edu](mailto:alloc@ucar.edu) by September 4 for Sections A, B, C, D, E and G. Alternatively, you may submit your own word document if you label each section and use the same order for the Sections A, B, C, D, E, and G.

Sections F and H must be submitted as separate PDFs to [alloc@ucar.edu](mailto:alloc@ucar.edu) by September 4. You should get a confirmation within one day. If you do not or if you have questions on the CSL allocation process contact [alloc@ucar.edu](mailto:alloc@ucar.edu) or call 303-497-1229.

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*(This form is "locked" for the convenience of tabbing to the text spaces and being able to use the links. If you find you need to copy a table to add more programmers, for example, you can unlock the page by going to tools then unprotect. There is no password.)*

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## **A. Project Information:**

**Project Title:**

**CISL Project Number (if you wish to continue your current CSL project):**

## **Computing Requirements:**

GAUs needed from December 1, 2007 through May 31, 2009. You may request a different number of GAUs each month by adding rows to the table. Assume all use is in the REGULAR Queue. Do not add any GAUs for Mass Storage System (MSS) use. MSS GAUs will be added to the CISL final allocations.

Total GAUs Requested:	
GAUs requested per month (December 1, 2007 through November 30, 2008):	
GAUs requested per month (December 1, 2008 through May 31, 2009)	

If you have deadlines relevant to your CSL research that you have to meet, please give a brief discussion of them and how they affect your computing requirements.

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## **B. Identification of the Primary Principal Investigator for this Proposal**

Proposal PI's Name:	
PI's Title (Professor, Research Associate, etc.):	
Department and Institution:	
Street Address (no P.O. Box, campus box, or drop box, please include city, state, and zip) This must be a complete FedEx address for delivering CryptoCards:	
E-mail Address:	
Telephone:	
Fax Number for password:	

**Brief summary of education of primary principal investigator (including a summary of computing experience):**

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**Point-of-Contact for the CSL project's computational aspects:**

For each CSL project, CISL uses a point-of-contact. This may be the PI, the requesting scientist, or a programmer on the project. Notices of machine changes, resource allocation changes, and machine utilization will be directed to this person. We also solicit input on proposed changes and their potential impact.

POC Name:	
Title (professor, graduate student, post-doc, etc.)	
Street Address (no P.O. Box, campus box, or drop box, please include city, state, and zip) This must be a complete FedEx address for delivering CryptoCards:	
E-mail Address:	
Telephone:	
Fax Number for password:	

### C. Co-I(s)

Use the table below to identify all CO-I(s) on the project. If a CO-I will be a programmer on the project, type "+PROGRAMMER" after their name and it will not be necessary to duplicate their information in "Identification of Programmers" Section E. Duplicate the table for each CO-I.

CO-PI's name:	
CO-PI's title (professor, research associate, etc.):	
Department and institution:	
Street address (no P.O. Box, campus box, or drop box, please include city, state, and zip) This must be a complete FedEx address for delivering CryptoCards:	
E-mail address:	
Telephone:	
Fax number for password:	

### D. Research Sponsor(s)

Please provide the following information for all sponsors of the project (duplicate the table for each sponsor) all 12 items are required of each sponsor:

Name of research sponsor:	
Mailing address of sponsor (not needed for DOE, NASA or NSF)	
Program name:	
Agency program manager for your contract:	
Program manager email address:	
Agency award number:	
Is award pending? (yes or no)	
If award is pending, provide proposal number:	
Start date of award:	
End date of award:	
PI listed on agency award:	
Award PI's Institution and complete address, if not provided in Section B:	
Award PI's telephone, if not provided in Section B:	
Award PI's e-mail address, if not provided in Section B	
Award PI's fax number, if not provided in section B:	

## E. Identification of Programmers

Fill out the following for any programmers or assistants who will be working on this project. Duplicate the table for each additional programmer. It is not necessary to list information for PIs or CO-PIs who want programmer accounts if you noted their names with "+PROGRAMMER" in sections B or C.

*(This form is "locked" for the convenience of tabbing to the text spaces and being able to use the links. If you find you need to copy a table to add more programmers, for example, you can unlock the page by going to tools then unprotect. There is no password.)*

Name:	
Title (professor, graduate student, post-doc, etc.)	
Telephone:	
Fax:	
E-mail Address:	

Complete FedEx mailing address for CryptoCards:	
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## F. Computational Requirements

**Email Section F to [alloc@ucar.edu](mailto:alloc@ucar.edu) as a PDF. When you create your PDF please ensure that it is compatible with Adobe Reader 6.0. CISL also requests that you test any hyperlinks in your submission to ensure that they are accessible without having to enter an unknown login or password.**

**Information for items 1 thru 8 is required. Please number your response to each of the 8 required items. Please contact Ginger Caldwell, 303-497-1229, [cal@ucar.edu](mailto:cal@ucar.edu) if you have questions.**

1. For each experiment provide the calculation of node-reserved time per experiment, which is defined as number of nodes \* number of processors per node (i.e. 8 or 16) \* wall clock time per simulated year \* number of simulated years. Please specify each term used in this equation in a table format for clarity. Multiply the node-reserved time per experiment times the computer factor (0.87 for bluevista or blueice) to compute the GAUs per experiment. The GAUs per experiment should also be included in the table. Charging information is available at: <http://www.cisl.ucar.edu/docs/charges/> .
2. Number of simulated years or ensembles required for each numerical experiment. State why this number is needed and not fewer years or more years. Literature references are encouraged. Without this information the Panel may reduce or deny your computing request.
3. Evidence that your program code is well optimized and operates efficiently and responsibly in an environment where resources are shared and are at a premium. Include documentation on program code performance (e.g., timings, performance monitoring tools). The PI is responsible for convincing the reviewers of optimized code performance. This should be substantiated with benchmarks on an IBM POWER5 or POWER5+ computer. You may request a CISL account to obtain this information by completing the <http://www.cisl.ucar.edu/resources/overviewalloc.html> under “Small Request Form.”
4. Special requirements such as, large temporary disk space (ptmp), special software, file transfer needs, or long run times without restarting. The standard run time is six wall clock hours. Projects are expected to modify their code to save results and do auto-restarts to stay within the six wall clock hour limit.
5. What is the maximum number of TB you plan to store on NCAR's Mass Store System (MSS) during the life of your project (normally 18 months)? If your data storage is < 1 TB just enter < 1 TB.

6. Plan for the analysis of model results. Teams should propose a balanced modeling program of experimentation, application, analysis and validation. Note: CSL users have access to separate data analysis computers that do not incur GAU charges.
7. Discuss your plan for sharing the data generated by your CSL research with the community including type of data to be shared, groups with whom you plan to share your data, and the length of time your data needs to reside on CISL's MSS after your CSL project ends to meet these needs. While the panel is sensitive to the issue of maintaining proprietary data rights to give the principals sufficient time to analyze and publish their findings, it is also necessary that the groups using the CSL demonstrate concrete planning for providing, in a timely manner, the output data and analyzed results to the larger community for others to evaluate and to use.

## G. Publications

Please list publications relevant to the science and computational aspects of this proposal. If you list more than five publications, highlight *with an asterisk* those publications which you want the panel to especially note.

## H. Proposal Summary

**Email Section H as a PDF file to [alloc@ucar.edu](mailto:alloc@ucar.edu) . (Section H must be a separate PDF from Section F.) When you create your PDF please ensure that it is compatible with Adobe Reader 6.0. CISL also requests that you test any hyperlinks in your submission to ensure that they are accessible without having to enter an unknown login or password.**

Please provide a self-contained proposal describing your project. This should be the equivalent of 4-5 typewritten pages (with a maximum of 5 pages), excluding figures and publications. It is important to give sufficient information for the realistic evaluation of the problem.

The description of the numerical approach should be sufficiently detailed for reviewers to confirm the estimate of machine time required. For example, in the solution of a system of time-dependent partial differential equations, the descriptions should include the finite difference approximations, and the methods proposed for integration in time and space. An estimate of the number of grid points and the number of parameters to be retained at each time step should also be given.

The description in Section H should explicitly respond to the CSL criteria in the “July 2007 CSL Announcement of Opportunity” on the CSL web site:

<http://www.cisl.ucar.edu/csl/> . Please label your responses as Criteria 1-4. Include sufficient documentation for the panel to easily determine if the proposal meets the CSL criteria and other factors under Allocation Process.

Insufficient documentation can mean a denial of your proposal or a reduction in the resources allocated, until the next CSL Announcement of Opportunity.

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**All changes and any new PDF files are due by September 4, 2007.**

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The [\*National Center for Atmospheric Research\*](#) is sponsored by the [\*National Science Foundation\*](#) and managed by the [\*University Corporation for Atmospheric Research\*](#).